

15. (Amended) A library of proteins as defined in claim 1.
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20. (Amended) A method as claimed in claim 17 wherein the target is a complex mixture, eg a mixture of molecules, whole cells or cell membranes.
23. (Amended) A method as claimed in claim 21 wherein after screening for binding to the target the library is dereplicated to identify one or more proteins with a desirable property, proteins which bind to the target.
24. (Amended) A method as claimed in claim 21 where the "associating moiety" is a particle.
26. (Amended) A method as claimed in claim 21 wherein the "associating moiety" is a protein or protein complex.
28. (Amended) A method as claimed in claim 21 wherein the "associating moiety" is a bispecific binding molecule capable of binding to both the proteins and genes.
29. (Amended) A method as claimed in claim 21 wherein the "associating moiety" is a living cell or cellular virus such as a bacteria or bacteriophage.
30. (Amended) A method as claimed in claim 21 wherein one or other molecules which alter the properties of the proteins in the library are bound to the "associating moiety".
31. (Amended) A method as claimed in claim 21 wherein the genes encoding the proteins in the library are attached to the "associating moiety" prior to synthesis of the individual proteins.
32. (Amended) A method as claimed in claim 21 wherein the library of proteins is a library of antibody proteins, eg a library of antibody domains such as Fvs.

40. (Amended) A method as claimed in claim 37 wherein the library of protein binding agents is a library of antibodies or antibody fragments.

41. (Amended) A method as claimed in claim 37 wherein the protein binding agents are major histocompatibility proteins, T cell receptors and natural proteins or protein domains involved in protein-protein binding interactions, such as SH1 domains.

42. (Amended) A method as claimed in claim 40 wherein the library of protein binding agents is pre-selected for binding to one or more proteins or peptides derived from the protein mixture or a related protein mixture under analysis.

44. (Amended) A method as claimed in claim 36 wherein the protein mixture is initially bound to a solid phase prior to digestion or cleavage either via the N or C-terminus or via specific amino acids or via specific sequences of amino acids.

45. (Amended) A method as claimed in claim 36 wherein specific amino acids or modified amino acids found in the proteins are derivatised prior to binding to a solid phase, such binding occurring either before or after digestion or cleavage of the protein mixtures.

48. (Amended) A method as claimed in claim 36 wherein specific naturally modified amino acids found in the proteins are bound to a solid phase using modification specific affinity reagents, such binding occurring either before or after digestion or cleavage of the protein mixtures.

49. (Amended) A method as claimed in claim 45 wherein more than one cycle of digestion/cleavage and derivatisation is carried out.

51. (Amended) A method as claimed in claim 36 wherein peptides released after digestion/cleavage are fractionated using physical methods such as HPLC before or after fractionation using protein binding agents.